Data Structure Recitation

Midterm Review

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October 19, 2016

Question

Question?

Definition

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$$f(x) = O(g(x))$$

if and only if there exists a positive real number M and a real number x_0 such that

$$|f(x)| \leq M|g(x)|, \quad \forall x \geq x_0.$$

Examples

- $f(n) = (n^n)^{10}; g(n) = n^{(n^2)}$
- $f(n) = n^5 \cdot 2^n; g(n) = n^2 \cdot 3^n$
- $f(n) = \log(n^{111} + 3n); g(n) = \log(n^2 - 1)$
- $f(n) = 15n^{15} + 2; g(n) = \frac{n^{16}+3n^2+4}{111} - 37n$
- $f(n) = \log(2^n + n^{12}); g(n) = \log(n^{12})$

Reverse a Linked List

Reverse a linked list.

```
1 public ListNode reverse (ListNode node){
2
3 }
```

Linked List

Circular Linked List.

Question

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